

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claim 1 was objected to as including noted informalities. The Examiner noted that claim 4 included a similar limitation. Claim 1 has been reviewed and revised above bearing in mind the Examiner's objection. In this regard, it is noted that claim 1 has been amended in response to the Examiner's informalities objection and not in response to any prior art rejection made by the Examiner.

Claims 3 and 6 were rejected under 35 USC 112, second paragraph, as being indefinite. These claims have been reviewed and revised above so as to address the Examiner's rejection. Reconsideration and withdrawal of the rejection are requested.

Original claims 1-6 were rejected under 35 USC 102(e) as anticipated by Suzuki et al. Applicant respectfully traverses this rejection.

The Examiner characterizes Suzuki's grooves (71) as constituting safeguards as defined in applicant's independent claims 1 and 4. Reconsideration is respectfully requested.

As described in applicant's specification, when a contact surface between the flat surface 21b and the plunger surface 12b of an upper one of the plungers 12 is baked or when the contact surface between the flat surface 21b and plunger surface 12b of the lower one of the plungers 12 is baked, there is an increase in resistance to sliding motion of the cam ring 21 and the plunger 12. However, the cam 19 continues to rotate. Advantageously, according to the invention, safeguards 26 are provided to be broken when the physical load becomes too great thereby to protect the plungers and other structures from damage. The safeguards are preferably implemented by provided tapered grooves at which the stress applied to the cam ring is apt to concentrate.

In contrast to the invention defined by claims 1, 4 and new claim 13, and as is apparent from paragraph [0090] on page 6 of Suzuki et al., grooves 71 of Suzuki et al work to apply the fuel to areas of contact between the outer circumference 21a of the cam 21 and the inner circumference 23a of the bush 23 for providing lubrication between them. Thus, the grooves 71 of Suzuki are provided specifically for the purpose of directing lubricating fluid through the cam ring to the cam/bushing inner face. Suzuki does not in any what teach or suggest safeguards constructed and arranged to fail when a physical load of greater than a given degree is applied thereto in a direction of rotation of the eccentric cam. Reconsideration and withdrawal of the rejection over Suzuki is therefore solicited.

The herewith added dependent claims set forth even further unique and advantageous characteristics of the invention that distinguish it from Suzuki. More specifically, claims 7,10 and 14 characterizes the groove(s) provided according to the invention as extending end to end of the cam ring. Such a groove is not taught or suggested by Suzuki. Further, new dependent claims 9, 12 and 16 further characterize the invention by specifying that the groove(s) do not communicate with the inner periphery of the cam ring. Indeed, the groove is not provided to lubricate the inner periphery of the cam ring as in Suzuki but is provided as a failure point for failure of the cam ring to protect other components of the structure in the case from excessive tensile stress. This is also not taught or suggested from Suzuki and would not be obvious from Suzuki's teachings.

For all the reasons advanced above, reconsideration and withdrawal of the rejection based on Suzuki et al is solicited.

Original claims 1-3 were rejected under 35 USC 103(a) as obvious over Mori in view of Iwasaki and further in view of Bouchauveau. Further, claims 4-6 were rejected under 35 USC 103(a) as unpatentable over Mori in view of Iwasaki and Bouchauveau

applied to claims 1-3 and further in view of applicant's alleged admission of prior art. Applicant respectfully traverses these rejections.

As noted by the Examiner, Mori does not teach or in any way suggest a safeguard provided in the cam ring responsive to application of a physical load to undergo breakage. However, the Examiner cites the secondary reference to Iwasaki as teaching a mechanical safety breaker. However, Iwasaki teaches the mechanical safety breaker in a power steering system, specifically in a key provided between a steering shaft and a gear. Iwasaki provides no teaching or suggestion with respect to a cam and cam ring engaging plungers for translating rotary movement to linear movement. Moreover, Iwasaki does not teach or in any way suggest what component part of Mori could or should be designed to mechanical fail and how. Indeed, the fact that Iwasaki teaches a key linking a gear and a shaft that can fail does not mean *ipso facto* that any structure designed to fracture under excessive stress would be obvious to the skilled artisan. In fact, the prior art of record completely lacks any teaching whatsoever that it would be advantageous or desirable to provide a cam ring that is selectively disabled under excessive stress. As such, it represents a significant departure from conventional structures and a concept entirely new to a fuel injection pump.

The Examiner cites Bouchauveau as allegedly teaching the use of a reduced diameter region 28 that will shear in the event that fuel pump 10 seizes. Thus, Bouchauveau does teach a mechanical safety breaker in a fuel pump. However, Bouchauveau teaches failure of the drive shaft 26 at reduced diameter portion 28. No teaching is provided whatsoever in Bouchauveau that any other component part of a fuel pump could or should advantageously be designed as a mechanical safety breaker. Thus, the skilled artisan, without the benefit of applicant's disclosure, would not derive from Bouchauveau and Iwasaki that any change or modification should or could be made to Mori's cam ring. If anything Bouchauveau would simply suggest the provision of a reduced diameter portion of the cam shaft so that the cam shaft will fail. Thus, if

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anything, Bouchauveau teaches away from providing a failure point in the cam ring, which is taught and suggested only by applicant.

The Examiner bears the burden of establishing the existence of either 1) some objective teaching in the prior art or 2) knowledge generally available to one of ordinary skill in the art which would lead that individual to change the primary reference. In re Jones, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992).

Section 103 does not allow the Examiner to engage in picking and choosing from the prior art only to the extent that it will support a holding of obviousness, while excluding parts of the prior art essential to the full appreciation of what the prior art suggests to one of ordinary skill in the art. In re Wesslau, 147 USPQ 391 (CCPA 1975).

For the reasons advanced above, it is respectfully submitted that the skilled artisan would not be motivated by Iwasaki or Bouchauveau to modify the cam ring of Mori, much less to provide safeguards as claimed by applicant. Reconsideration and withdrawal of the Examiner's rejection is therefore requested.

Regarding the Examiner's assertion of admitted prior art, it is respectfully submitted that the characterization of a cam chamber filled with fuel was with regard to the prior art structure of Japanese Patent Publication No. 2000-240531, illustrated in Figure 5 of this application. In any event, it is respectfully submitted that the prior art cited by the Examiner taken alone or in combination does not teach or suggest the modification of Mori so as to provide safeguards as claimed by applicant.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

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Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



Michelle N. Lester
Reg. No. 32,331

MNL:slj
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100